

## **Aerosol Mapping From Space: Strengths, Limitations, and Applications**

**R A Kahn**, NASA Goddard Space Flight Center, Greenbelt MD 20771; and the MISR Team e-mail: [ralph.kahn@nasa.gov](mailto:ralph.kahn@nasa.gov)

The aerosol data products from the NASA Earth Observing System's MISR and MODIS instruments provide significant advances in regional and global aerosol optical depth (AOD) mapping, aerosol type measurement, and source plume characterization from space. These products have been and are being used for many applications, ranging from regional air quality assessment, to aerosol air mass type identification and evolution, to wildfire smoke injection height and aerosol transport model validation.

However, retrieval uncertainties and coverage gaps still limit the quantitative constraints these satellite data place on some important questions, such as global-scale long-term trends and direct aerosol radiative forcing. Major advances in these areas seem to require a different paradigm, involving the integration of satellite with suborbital data and with models. This presentation will briefly summarize where we stand, and what incremental improvements we can expect, with the current MISR and MODIS aerosol products, and will then elaborate on some initial steps aimed at the necessary integration of satellite data with data from other sources and with chemical transport models.

Submitted to Session: A11

Abstract identification number: 6921